

Notice of Allowability

Application No.

10/682,301

Examiner

Jean B Jeanglaude

Applicant(s)

CAI, QI

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 10-29-04.
2. ☒ The allowed claim(s) is/are 1-31.
3. ☒ The drawings filed on 09 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Jean Bruner Jeanglaude
Primary Examiner

Reasons For Allowance

Claims 1 - 31 are allowable.

1. The following is an examiner's statement of reasons for allowance: in combination with other limitations of the claims the prior arts made of record fail to suggest an analog-to-digital conversion system that comprises a plurality of cascaded successive approximation register subconverter stages in which in a sample mode, the switched capacitor system stores the subconverter stage input voltage in the plurality of capacitors; wherein in a conversion mode, the switched capacitor system applies the intermediate digital signal to the plurality of capacitors and provides the switched capacitor system output signal representative of a difference between the subconverter stage input voltage and a value of the intermediate digital signal; and wherein in a residue amplification mode, the switched capacitor system provides the switched capacitor system output signal representative of a difference between the subconverter stage input voltage and a final value of the intermediate digital signal. Also, in combination with other limitations of the claims the prior arts made of record fail to suggest an analog-to-digital conversion system that comprises a second successive approximation converter stage that provides a second multi-bit digital output signal representative of the first subconverter stage residue output signal, and provides a second subconverter stage residue output signal representative of a difference between the first subconverter stage residue output signal and a final value of the second multi-bit digital output signal. Moreover, in combination with other limitations of the claims, the prior arts made of record fail to suggest an analog-to-digital conversion system in which

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the plurality of successive approximation subconverter stages comprise a first subconverter stage receiving a conversion system analog input signal and providing an analog first residue output signal and a first digital output signal comprising J bits, J being an integer greater than 1, the first residue output signal being representative of a difference between the conversion system analog input signal and a final value of the first digital output signal amplified by a first gain factor, wherein the first gain factor is $2^{(J-1)}$ less than 2.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B Jeanglaude whose telephone number is 571-272-1804. The examiner can normally be reached on Monday - Friday 7:30 A. M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in cursive script, reading "Jean Bruner Jeanglaude".

Jean Bruner Jeanglaude
Primary Examiner
November 19, 2004